

COMMONLY ASKED QUESTIONS ABOUT THE PEREGRINE FALCON **(*Falco peregrinus*)**

1. What do peregrine falcons look like?

The peregrine falcon belongs to the genus “Falco,” which is characterized by long pointed wings. In fact the word Falco is derived from “falx,” the Latin word for sickle, in reference to the distinct sickle-shaped silhouette of the peregrine falcon’s extended wings in flight. Also unique to this species is the notched beak that is used to kill prey by severing the spinal column at the neck. The peregrine falcon is a crow sized bird, weighing just over two pounds with a wing span of approximately 3½ feet. An adult peregrine has a dark grey back and crown, dark bars or streaks on a pale chest and abdomen, and heavy malar (cheek) stripes on the side of the face. Immature peregrines are buff colored in front and have dark brown backs; adults are white or buff in front and bluish-gray on their backs. Females and males are identical in appearance, however, the female can be a third larger than the male.

2. Where is the peregrine falcon found?

The peregrine falcon has the most extensive natural distribution of any bird in the world, limited only by high elevations, extreme heat, and extreme cold. It is found on all continents except Antarctica and is absent in most parts of the world only in the high mountains, in large tracts of desert or jungle, and on isolated islands in the oceans.

3. How did the peregrine falcon get its name?

Peregrine in Latin is “Peregrinus,” which means traveler. Peregrine falcons are well known for their long fall and spring migratory flights to and from their nesting and wintering habitats. The Arctic peregrine falcon lives up to its name, breeding on the north slope of Alaska east across northern Canada to Greenland in summer and migrating as far south as the tip of South America to winter. Early falconers called these falcons peregrines because they were always trapped during passage (migration) and not taken from the nest, as were most birds used for the sport of falconry.

4. Do peregrine falcons mate for life?

Peregrine falcons are monogamous (they mate for life) and breed in the same territory or area for their entire lives. There are exceptions, such as when one mate dies or is out-competed and replaced by a stronger individual. Sexual maturity occurs during the second year of life and after approximately one month of courtship, then 3 or 4 eggs are laid in the spring. Incubation takes approximately 33 days and although both parents share incubating duties, the female performs the greater share. Two or three chicks usually hatch and fledge in approximately 42 days. After fledging, young peregrine falcons are still dependent on their parents for food until they learn to hunt, which takes about a month and a half.

5. Do peregrine falcons build nests?

Most birds build nests made of sticks and soft natural fiber material in which their eggs are incubated. Peregrine falcons lay their eggs in “scrapes,” which are shallow indentations they scratch out with their talons in the soft earth on the floor of the nest ledge. Peregrine falcons typically nest on ledges and in small shallow caves located high on cliff walls. They have been known to use the abandoned nests of other birds, and on the north slope of Alaska, commonly nest on the ground.

6. How fast can a peregrine falcon fly?

Peregrine falcons are the fastest flying bird in the world. In a stoop (dive) peregrine falcons can attain speeds in excess of 200 miles per hour as they attack their prey. In level flight, the normal speed for peregrines is about 40 to 55 miles per hour.

7. How do they capture their prey?

Peregrine falcons are aerial predators, feeding on live birds and occasionally bats, which they capture in mid-air. Tandem hunting flights are common with a pair of peregrine falcons alternately diving on their prey until it is caught.

8. Do peregrine falcons have natural predators?

Peregrine falcons are fast, aggressive and fearless predators located at the top of their food-chain, and therefore, rarely suffer from predation by other animals. Great-horned owls and golden eagles are known to occasionally kill fledgling peregrines, and less often, adults. Peregrine eggs sometimes fall victim to raccoons and red tail hawks. The nestlings of ground nesting Arctic peregrine falcons may be preyed upon by predators such as grizzly bears and foxes.

9. What subspecies of peregrine falcon are native to North America?

There are three subspecies nesting in North America, the Arctic peregrine falcon (Falco

peregrinus tundrius) nests on the north slope of Alaska east across northern Canada to Greenland, and winters in Latin America: the Peale's peregrine falcon (Falco peregrinus peali) is a year-round resident on the coasts of Washington, British Columbia, and Alaska north to the Aleutian Islands. The American peregrine falcon (Falco peregrinus anatum) nests in southern Alaska, Canada, United States and northern Mexico. Peregrine falcons that nest in subarctic areas generally winter in South America, while those that nest at lower latitudes exhibit variable migratory behavior. Some are nonmigratory.

10. What was the historical peregrine falcon population in North America?

The historical status of the peregrine falcon in North America is not known, but it was probably never common, even when compared to other birds of prey. The limited historical data suggest a best estimate of 3,875 nesting pairs. The decline of the peregrine falcon population in North America began in the 1940s, was most pronounced during the 1950s and continued through the 1960's into the early 1970's throughout most of its range. By the time biologists realized the magnitude of the peregrine falcon decline, the population was only about 12% of what it had been prior to the introduction of modern pesticides.

11. What caused the near extinction of the peregrine falcon in North America?

The use of DDT as a pesticide during the 1940s, 1950s and 1960s resulted in a precipitous decline of peregrine falcons in North America. During this period of DDT use, eggshell thinning and nesting failures were widespread in peregrine falcons, and in some areas, successful reproduction virtually ceased. As a result, there was a slow but drastic decline in the number of peregrine falcons in most areas of its range in North America. DDE, a metabolite of DDT, prevents normal calcium deposition during eggshell formation, resulting in thin-shelled eggs that are susceptible to breakage during incubation. Peregrine falcons feed near the top of the food chain and suffered from the accumulation of DDE due to eating contaminated prey.

12. How many peregrines were there when the bird was first placed on the endangered species list?

The eastern population of the peregrine was gone and the populations in the west had declined by as much as 80-90 percent below historical levels. By 1975, the population was only 324 nesting pairs in North America.

13. How many peregrines are there in the United States today?

Currently, there are 1,650 breeding pairs in the United States and Canada, well above the recovery goal of 631 pairs.

14. What has contributed to the recovery of the peregrine falcon?

The most significant factor in the recovery of the peregrine falcon was the restriction placed on the use of chlorinated hydrocarbon pesticides. The use of DDT was banned in Canada in 1970 and in the United States in 1972. Consequently, the reproductive rates of peregrine falcons improved and its comeback began. But the banning of DDT on its own was not enough. Listing the peregrine as endangered in 1970 gave the remaining pairs and their habitat the protection necessary to increase and reoccupy their historical range without persecution. The recovery of this species was enhanced by innovative recovery programs like the release of captive-bred birds to augment the wild population.

15. Has international cooperation by other countries played a critical role in the recovery of the American peregrine falcon?

Yes, Canada has played a significant role in the American peregrine falcon success story in North America. Canada actually restricted the use of DDT in 1970, two years before the United States. It listed the American peregrine falcon giving it legal protection, wrote a recovery plan and formed a recovery team to implement the recovery measures prescribed in the plan. Canada also developed captive breeding and release programs that helped accelerate the recovery of the American peregrine falcon in Canada. By 1995 Canada had 319 known pairs surpassing its recovery goal of 60 pairs by 341. Although Mexico never listed the American peregrine falcon, it has supported the research of both breeding and migrating peregrines by both American, Canadian, and Mexican biologists.

16. How much money has been spent to recover the peregrine falcon?

American Peregrine Falcon Estimated Expenditures 1989 Through the End of Fiscal Year 1997

1989
\$ 2,744,200
1990
\$ 2,873,300
1991
\$ 5,986,360
1992
\$ 8,978,800
1993
\$ 2,581,000
1994
\$ 2,733,900
1995
\$ 2,438,730
1996
\$ 1,379,020
1997
\$ 2,600,790

1998
data being compiled

TOTAL:
\$ 32,316,100

Note: The Expenditures Report for 1996 and 1997 have not been published yet. They have been completed, but are awaiting Signature of the Secretary. Since Fiscal Year 1999 (October 1, 1998 - September 30, 1999), the Service has funded delistings and reclassifications under the recovery program rather than the listing program. Therefore, delistings and reclassifications no longer compete for funding with listing activities.

These estimated expenditures for the American peregrine falcon come from the Service's annual Expenditures Report to Congress. It represents expenditures of the Service, other Federal agencies with conservation duties, and State agencies (State data are compiled by the International Association of Fish and Wildlife Agencies under contract by the Service). The requirement to track reasonably identifiable expenditures for listed species did not begin until 1989 (after the 1988 Endangered Species Act amendments). Therefore, recovery expenditures for the American peregrine falcon prior to 1989 can not be estimated.

The species was listed in 1970 under the predecessor of the Endangered Species Act and was listed under the Endangered Species Act in 1973. It is important to note that the cooperation and recovery efforts by conservation organizations, universities, corporations, foreign governments, and private individuals are not enumerated in the expenditures reports, yet those actions were and are vital to the recovery of the American peregrine falcon.

17. Should we be concerned that many of the peregrine falcons today are nesting in urban environments?

Most peregrine falcons nest on cliff ledges found in the wild landscapes of North America. However, one of the most promising characteristics of the peregrine falcon is its ability to adapt to its environment, which is demonstrated by the diversity of habitats it occupies throughout its range. Urban environments provide peregrine falcons with nesting structures, in many cases buildings, and a food base of wild and domestic birds that have also adjusted to city life. With human assistance or on their own, peregrine falcons have discovered and occupied this man-made habitat and these urban birds have contributed positively to the recovery of the species.

18. What is "hacking" and what role did it play in the recovery of the peregrine falcon?

Hacking is the controlled release of young captive-bred peregrine falcons from artificial nests, usually plywood boxes secured to cliff ledges or tall buildings. It was developed centuries ago by falconers as a means of building flight skills and strength prior to actual training. An estimated 6,000 peregrine falcons have been released to the wild since the first two peregrine

falcons were hacked out in 1974. These hacked peregrine falcons have augmented extant wild populations and helped repopulate areas where peregrine falcons were extirpated in the wild. The majority of releases occurred in the late 1970's, 1980's, and the early 1990's. Few people are currently hacking captive-bred peregrine falcons. The last major releases took place in 1997, when 47 birds were hacked.

19. Wouldn't it be prudent to delay the delisting until we have time to evaluate how the release program influenced the stability of the current peregrine falcon population?

Most releases took place in the 1970's and 1980's. By the early 1990's, the peregrine falcon release program was winding down. The current breeding population is made up of many generations of released captive-bred birds and the wild birds that survived the near extinction. Most of the original released birds have died and it's their progeny that have bred successfully in the wild. There are areas within the range of this species that support large populations, Alaska (301 pairs) and the Southwest (214 pairs) that have recovered without the release of captive-bred birds. There is no reason to expect any decline in the status of the wild population due to the cessation of the release program.

20. Why didn't the Service consider downlisting the peregrine falcon to threatened rather than delisting?

Substantial improvements in numbers of peregrine falcons and productivity have occurred in the 1990's. These data show that goals set for numbers of pairs and productivity by the existing peregrine falcon recovery plans have been met or exceeded. The combined population goal in the current peregrine falcon recovery plans is 631 pairs. Currently, a minimum of 1,650 pairs occupy the range of the peregrine falcon in Alaska, Canada, and the Continental United States, exceeding the recovery goal by 962 pairs.

The peregrine falcon has achieved or exceeded the goals established for recovery. The Service also believes that when viewed on a range-wide or even region-wide basis the species clearly is not in danger of extinction throughout a significant portion of its range and warrants full delisting.

21. Why are we delisting the peregrine falcon if it has not been restored throughout its historical range?

We have determined the peregrine falcon has recovered throughout its historical range. Restoration of the peregrine falcon throughout its historical range is not required by the Act. The goal of a recovery program is to restore the species to a point at which protection under the Act is no longer required. To be recovered, a species must not be in danger of extinction, or likely to become endangered, within the foreseeable future, and the threats that led to the species' listing must be reduced or eliminated. Although a few, localized areas have not quite met their numerical recovery goals, the overall status of the species has improved significantly

such that it is considered recovered and warrants delisting. As a species recovers in numbers and populations expand, more of the remaining historical range can be re-occupied. In the case of the peregrine falcon, suitable habitat still remains, therefore continued expansion is expected.

22. How can the Service delist the peregrine falcon when all recovery goals in the existing recovery plans have not been met or exceeded?

Section 4(f) of the Act directs the Service to develop and implement recovery plans for species of animals or plants listed as endangered or threatened. Recovery is the process by which the decline of an endangered or threatened species is arrested or reversed and threats to its survival are neutralized so that long-term survival in nature can be ensured. One of the main purposes of the recovery plan is to enumerate goals (guidelines) that will help the Service to determine when recovery for a particular species has been achieved. The Act does not require that all of the specific recovery goals for a listed species be met or exceeded before it can be delisted. The Service determines whether recovery has been achieved based on a species' performance relative to the goals set in its recovery plan, the best available scientific information, and interviews with species experts. A species is recovered when it is no longer in danger of extinction (i.e., endangered), or likely to become endangered within the foreseeable future throughout all or a significant portion of its range (i.e., threatened), and the threats that led to the species' listing have been reduced or eliminated. The peregrine falcon meets these requirements for removal from the List of Endangered and Threatened Wildlife.

The peregrine falcon has either met, exceeded, or is very close to meeting the recovery goals set for this species throughout its range. The Service has determined the available information supports full delisting of the species throughout its range, and when viewed on a range-wide or even region-wide basis, the species is clearly not in danger of extinction, is not likely to become endangered within the foreseeable future throughout a significant portion of its range, and warrants full delisting.

23. There are gaps in the scientific knowledge about peregrine biology, genetic diversity, viable population size, population dynamics, and long-term stability. Shouldn't a population viability analysis have been done before delisting?

Current evidence of population increases and the expansion of the peregrine falcon into urban area make a population viability analysis unnecessary. A complete understanding of the biology of a species is not required prior to delisting. Population viability analyses are important tools for attempting to quantify threats to a species, particularly those facing loss and fragmentation of habitat, and the consequences of conservation actions, as well as aiding in identifying critical factors for study, management, and monitoring. These analyses are not essential, however, to determine when a species has recovered, particularly for the peregrine falcon. It is evident that recovery of this species has been largely achieved by eliminating the use of DDT and because of management activities under the Endangered Species Act, including the reintroduction of captive-bred peregrine falcons. Recovery goals have been met

or exceeded, with few exceptions.

24. What is the status of the eastern peregrine population?

The eastern peregrine population has an unusual history and a complex status under the Act. Peregrine falcons were extirpated in the eastern United States and southeastern Canada by the mid-1960's. In 1974, shortly after the passage of the Endangered Species Act of 1973, the National Audubon Society sponsored a meeting of experts in peregrine biology, including representatives from the Service, to address the species' conservation. This sparked the beginning of an effort to reestablish the peregrine in the east through the introduction of offspring from parents of multiple subspecies. The first experimental releases of captive-produced young in the eastern States occurred in 1974. These and future releases, coordinated by the Service, State fish and wildlife agencies, and representatives of The Peregrine Fund, The Raptor Center and the Santa Cruz Predatory Bird Research Group demonstrated that hacking was an effective method of introducing captive-produced peregrines to the wild.

In 1978, the Director issued a policy statement confirming support for the use of intercrossed North American peregrines to establish an eastern peregrine falcon population and the use of endangered species funds. In 1979, the Service published the first Eastern Peregrine Falcon Recovery Plan. This was the one of four U.S. regional plans to be developed in order to guide the restoration of the peregrine in the East. The primary objective of the Plan was to restore a new self-sustaining population of peregrine falcons in the eastern United States through preservation and management of essential habitat, captive propagation and release, and protection of the population from take, elimination of harmful environmental pollutants, and public education.

Reflecting a 1983 Department of the Interior Solicitor opinion that intercrosses of listed species were not covered by the Act, the Service, through the rule making process reclassifying the Arctic peregrine falcon from threatened to endangered status, modified the regulatory status of introduced mixed heritage eastern birds by designating all free-flying Falco peregrinus in the lower 48 States as Endangered due to Similarity of Appearance to listed American and Arctic peregrines (F. p. anatum and F. p. tundrius). This was done because intercrossed peregrines were not readily distinguishable from listed American and Arctic peregrines, making enforcement of the taking prohibitions for the listed subspecies difficult. Accordingly, to ensure the protection from illegal take of American and Arctic peregrine falcons that may be nesting, migrating, or wintering in the lower 48 States, the Service designated any free-flying peregrine (Falco peregrinus) found within the lower 48 States as endangered due to Similarity of Appearance, thereby extending the taking prohibitions of section 9 to these birds. The 1983 Solicitor opinion was subsequently withdrawn, and the Service continues to endorse the eastern restoration program.

25. What is the status of the American peregrine falcon in Mexico?

Although there is a lack of historical or recent information on peregrine falcons in Mexico for

accurately assessing their current status, there are no recent data indicating peregrine falcon populations in Mexico are declining, are imperiled by organochlorine pesticides, or have not recovered in recent years similarly to populations in the United States and Canada. The status of the Mexican population may be similar to that of the population occupying similar habitat in nearby Arizona.

In 1997, as part of the North American Free Trade Agreement, the Commission for Environmental Cooperation established a North American Regional Action Plan (NARAP) on DDT. Specific NARAP goals that will benefit the peregrine falcon in Mexico are: beginning in 1997, a phased reduction in DDT by 80 percent in 5 years, resulting in the eventual elimination of DDT used for malaria control; elimination of the illegal use of DDT in agriculture; develop a cooperative approach to reduce the illegal importation of DDT; and advance global control of DDT production, export, and use.

26. Can you consider all threats removed if organochlorine pesticides still persist within the breeding range of the peregrine falcon and continue to depress natural productivity in some areas?

Despite the continued presence of organochlorine residues in certain populations, peregrine falcons have increased and are no longer in danger of extinction throughout a significant portion of their range.

27. Isn't the unrestricted use of organochlorine pesticides in Latin America a threat to wintering peregrine falcons?

Available information indicates that pesticide use in Latin America has apparently not been significant enough to cause a decline in the number of peregrine falcons nesting in North America. Although migrant peregrine falcons accumulate pesticides while wintering in Latin America, DDE residues in the blood taken from female peregrine falcons captured during spring migration at Padre Island, Texas decreased between 1978 and 1994 to levels that would not affect reproduction. The overall reproductive success and resultant population increases throughout the peregrine falcon's range suggest only minor and very spotty problems with DDT that continue to diminish. Arctic peregrine falcons, which also winter in Latin America, were delisted in 1994.

28. How will we know that the peregrine falcon population in North America will not start to decline without the protection of the Act?

The Act requires that the Service implement a system, in cooperation with the States, to monitor for not less than five years, a species that has been delisted due to recovery. The peregrine falcon monitoring program has been developed in cooperation with State resource agencies, recovery team members, and interested scientists and will be carried out in collaboration with Federal, State, and private cooperators.

The scope of the monitoring program will include 5 geographical regions representing the types of landscapes inhabited by the peregrine falcon throughout its range; surveys will be conducted in index areas within each designated region. The peregrine falcon monitoring program will begin in the spring of 2001 and end in 2013. During the 13-year period, surveys will be conducted every 3 years for a total of 5 surveys. The designation of a 13 year monitoring period encompasses approximately 2 generations of peregrines in the wild which should be sufficient in length to detect an inability of the population to be self-sustaining. Monitoring will include the collection of information on territory occupancy, nesting success, and contaminant exposure. At the end of each tri-annual monitoring period and at the conclusion of the 13 year monitoring program, we will review all available information to determine if relisting, continuation of monitoring, or termination of monitoring is appropriate.

29. Will the Service allow take for falconry purposes now that the species has been delisted?

Once the American peregrine falcon is removed from the endangered species list, take of peregrines is no longer prohibited under the Endangered Species Act. That will leave management of the species solely to the Migratory Bird Treaty Act and to state wildlife programs. We are working with the states to develop a proposal for management of take of nestlings and passage birds for falconry and for raptor propagation. We plan to use that proposal as the basis for an agreement with the authorities in Canada and Greenland to set preliminary limits for take of migrating young-of-the-year peregrines. Once we do, we must then complete an environmental assessment on the take of nestlings and passage birds, solicit public comment on the proposal, and publish the final criteria in the Federal Register. Until the final criteria are published in the Federal Register, take will be prohibited. This includes take for falconry, captive propagation, and scientific research. Once we reach agreement with the other government entities, take of peregrines for falconry and for raptor propagation will be authorized according to the criteria we agree upon. The allowed take of peregrines likely will be very small.

30. Will the take of peregrine falcons for falconry or for captive propagation create an additional threat to the species?

The Migratory Bird Treaty Act governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. Implementing regulations (50 CFR 20 and 21) include provisions for the taking of migratory birds for educational, scientific, and recreational purposes. Special regulations pertaining to raptors are found in 50 CFR 21.28 to 21.30. These regulations allow for the use of raptors for falconry and for captive propagation. Take from the wild for these activities must not threaten wild populations (50 CFR 13.21(b)(4)). Permit regulations require that issuance of permits not threaten wild populations of wildlife (50 CFR 13.21(b)(4)). The Service, in cooperation with the states, will develop biological criteria to govern the take of peregrine falcons prior to authorizing take for falconry and raptor propagation under the MBTA.

The taking, possession, transport, sale, purchase, or barter of raptors for falconry is permitted

in states that have certified to the Director of the Fish and Wildlife Service that their laws or regulations governing falconry meet federal falconry standards. There are currently 45 States that have done so. In all cases, anyone wishing a falconry permit must either get a joint federal/state permit, or separate state and federal permits (depending on the procedures of the state in which the person lives). This form of checks and balances is structured to ensure that falconers meet both federal regulations and state regulations that may be more stringent.

Generally, Federal standards limit the term of the permit, require at least two years of falconry experience, set a minimum age requirement, limit the number of peregrines that can be possessed, restrict the use of endangered raptors and golden eagles and limit the take of threatened raptors. State standards generally require that the applicant pass an examination, require state approval of all holding facilities and equipment, set detailed take restrictions and provide for inspections of peregrines and holding facilities to ensure that health and housing standards are being met. Both Federal and State agents can rescind a falconers permit if they are found to be violating their permit requirements.

A working group made up of cooperating states was established and developed falconry harvest plans for the United States. The plans include biological criteria for harvest, implementation criteria, and procedures for evaluating the harvest. The goal of the harvest plans is to arrive at a sustainable level of take that does not compromise the restoration of peregrine falcons in North America. The falconry regulations for take of peregrine falcons will be based on recommendations put forward in the harvest plans. The biological criteria and proposed regulations will be coordinated with and approved by all states, Canada, and Mexico then published in a separate rule for comment. No take of peregrine falcons in the United States will be allowed until the falconry regulations have been finalized, approved, and published in the Federal Register.

The scientific evidence to date indicates that falconry does not adversely affect wild populations of raptors. In addition, federal and state restrictions on the take of peregrines for falconry and propagation mean that it is unlikely that take for these purposes could threaten the recovery of the peregrine falcon. However, to ensure that it does not, the Service and its cooperating States will monitor the effects of falconry on the peregrine falcon population for 13 years after the delisting. Section 4(g)(1) of the Act requires that the Secretary of the Interior, through the Service, implement a monitoring program for not less than five years for all species that have been recovered and delisted. The purpose of this requirement is to develop a program that detects the failure of any delisted species to sustain itself without the protective measures provided by the Act.

31. What other U.S. species have recovered to the point of being removed from the Endangered Species List?

The Brown Pelican (Atlantic coast and eastern Gulf populations), the American Alligator, the Rydberg Milk-vetch, the Gray Whale and the Arctic Peregrine Falcon.